



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,787	10/12/2004	Gerard Eduard Rosmalen	NL 020294	4313

24737 7590 01/10/2007
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

GIESY, ADAM

ART UNIT	PAPER NUMBER
----------	--------------

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/510,787	Applicant(s) ROSMALEN, GERARD EDUARD	
	Examiner Adam R. Giesy	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka (JP Pat. No. 04-351722 A).

Regarding claim 13, Tanaka discloses a read and/or write head for an optical disk drive, comprising a lens holder (Drawing 1, element 2), a support frame (6 and 7), a support member configured to support the lens holder in the support frame and configured to allow a limited movement of the lens (5), an actuator comprising two focusing coils that are positioned offset from each other along an axis extending in a tangent direction and overlap each other along an axis extending in the tracking direction (as shown in Drawing 6), wherein the focusing coils are arranged to control movement of the lens in a focusing direction (see Drawing 1, focusing coils 3 and tracking coils 4).

Regarding claim 14, Tanaka discloses all of the limitations of claim 13 as discussed in the claim 13 rejection above and further that the focusing coils are offset in the tracking direction (see Drawing 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8, 10, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakabayashi et al. (hereinafter Wakabayashi – US Pat. No. 5,905,255) in view of Tanaka (JP Pat. No. 04-351722 A).

Regarding claim 1, Wakabayashi discloses a read and/or write head for an optical disk drive, comprising a lens holder (Figure 1, element 2), a support frame (Figure 1, element 9), means for suspending the lens holder in the support frame, which means constrain movement of the lens holder relative to the support frame (Figure 1, elements 8a-8d), allowing only an at least limited translation in a focusing direction (z), parallel to the optical axis of a lens in the lens holder, an at least limited translation in a tracking direction (y), perpendicular to the focusing direction (z), and an at least limited rotation about an axis in a tangent direction (x), perpendicular to both the focusing and the tracking direction (see column 6, lines 27-30), and actuator means, comprising two conductive focusing coils with a winding axis parallel to the focusing direction (z) (see column 9, lines 13-14), each positioned relative to a magnetic circuit in such a way that a current flowing through a coil gives rise to a force between the lens holder and the support frame in the focusing direction (z), the winding axes of the two focusing coils being positioned on opposite sides of a plane through the center of mass of the lens

Art Unit: 2627

holder and parallel to the focusing and tangent direction (see column 5, lines 56-64 and column 9, lines 1-12) and overlap each other along the axis extending in the tracking direction (y) (see Figure 1, elements 7a-7d – note that focusing coil 7a overlaps with focusing coil 7c in the tracking direction as shown in the figure). Wakabayashi does not distinctly disclose that the focusing coils are offset along the tangent direction (x).

Tanaka discloses an optical read/write head with a lens (Drawing 1, element 1), lens holder (2), supporting members (5, 6, and 7), tracking coils (4), focusing coils (3), and magnets (8) wherein the focusing coils are offset from each other along an axis extending in the tangent direction (x) (as shown in Drawing 2 – note that the tangent direction as indicated in the drawing as “Y” is equivalent to the tangent direction as indicated in the immediate application by “x”) and overlap each other along the axis extending in the tracking direction (y) (as shown in Drawing 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical read/write head as disclosed by Wakabayashi with the offset focus coils as disclosed by Tanaka, the motivation being to obtain a stable dynamic balance and limit unnecessary resonance.

Regarding claim 2, Wakabayashi and Tanaka disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Tanaka further discloses that the distance (d) between each winding axis of a focusing coil and the plane through the center of mass of the lens holder, and parallel to the focusing and the tangent direction, is smaller than the distance from the winding axis to the winding of each focusing coil in a lateral direction parallel to the tangent direction (as is readily apparent in Drawing 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical read/write head as disclosed by Wakabayashi with the offset focus coils as disclosed by Tanaka, the motivation being to construct a more stable read/write head while limiting the size of the head.

Regarding claim 3, Wakabayashi and Tanaka disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Tanaka further discloses that the focusing coils are arranged point-symmetrically relative to the center of mass of the lens holder (as is readily apparent in Drawing 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical read/write head as disclosed by Wakabayashi with the point symmetrical focus coils as disclosed by Tanaka, the motivation being to construct a more stable read/write head.

Regarding claim 4, Wakabayashi and Tanaka disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Tanaka further discloses an optical head wherein two focusing coils are mounted to the lens holder (see Drawing 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical head as disclosed by Wakabayashi wherein the permanently mounted magnets are fixed and focusing coils are mounted on the lens holder as disclosed by Tanaka, the motivation being to allow for more finite control of the optical head focusing means.

Regarding claim 5, Wakabayashi and Tanaka disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Wakabayashi further discloses

Art Unit: 2627

that each magnetic circuit comprises a yoke extending at least partly through the corresponding focusing coil along its winding axis (see column 6, lines 14-18).

Regarding claim 8, Wakabayashi and Tanaka disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Wakabayashi further discloses that the suspension means comprise four wire members (Figure 1, elements 8a-8d), each attached at one end to the lens holder and at the other end to the support frame (elements 8a-8d are attached at one end to element 2 – the lens holder – and at the other end to element 9 – the support frame - as shown in Figure 1).

Regarding claim 10, Wakabayashi and Tanaka disclose all of the limitations of claim 8 as discussed in the claim 8 rejection above. Wakabayashi further discloses that the wire members are provided with a cladding of an elastic material (see column 5, lines 46-48).

Regarding claim 11, Wakabayashi and Tanaka disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Wakabayashi further discloses that the read and/or write head is used in an optical drive (see column 1, lines 4-6).

Regarding claim 12, Wakabayashi and Tanaka disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. Tanaka further discloses that the focusing coils are offset in the tracking direction (see Drawing 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical read/write head as disclosed by Wakabayashi with the offset focus coils as disclosed by Tanaka, the motivation being to obtain a stable dynamic balance and limit unnecessary resonance.

Art Unit: 2627

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wakabayashi et al. (hereinafter Wakabayashi – US Pat. No. 5,905,255) in view of Tanaka (JP Pat. No. 04-351722 A) and further in view of Nishikawa (US Pat. No. 6,307,687 B1).

Regarding claim 9, Wakabayashi and Tanaka disclose all of the limitations of claim 4 as discussed in the claim 4 rejection above. Wakabayashi further discloses that the wire members are of an electrically conductive material (see column 9, lines 61-64). Wakabayashi fails to disclose that the wire members are electrically connected to the coils.

Nishikawa discloses that the wire support members are made of electrically conductive material and are electrically connected to the coils (see column 5, lines 31-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical head configuration as discussed in the claim 4 rejection above with the electrically conductive support members as disclosed by Nishikawa, the motivation being to use a pre-existing part as a conveyor of the electrical supply for the coils in order to limit the number of parts and wires used to manufacture the optical head.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakabayashi et al. (hereinafter Wakabayashi – US Pat. No. 5,905,255) in view of Tanaka (JP Pat. No. 04-351722 A) and further in view of Ohno (US Pat. No. 6,639,744 B2).

Regarding claim 6, Wakabayashi and Tanaka disclose all of the limitations of claim 5 as discussed in the claim 5 rejection above.

Ohno discloses an optical head wherein each magnetic circuit forms a loop in a plane parallel to the focusing and tangential direction (Figure 3, element 6) and comprises an air gap through which the windings of the corresponding focusing coil can move (Figure 4, element 11), at least one radial coil being mounted on the lens holder and located in each air gap with a winding axis aligned with the flux through the magnetic circuit (Figure 3, element 12 – the ‘tracking coil’ is the equivalent of the radial coil).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical head as discussed in claim 5 with radial (tracking) coils mounted on the lens holder in air gaps as disclosed by Ohno, the motivation being to allow for more finite control of the optical head tracking means and to allow for a greater range of movement by incorporating air gaps.

Regarding claim 7, Wakabayashi, Tanaka, and Ohno disclose all of the limitations of claim 6 as discussed in the claim 6 rejection above.

Ohno discloses an optical head wherein two radial (tracking) coils are mounted side by side in the tracking (y) direction in the air gap (Figure 3, element 12 – note placement of tracking coils).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical head as discussed in claim 6 with the radial (tracking) coils mounted on the lens holder in air gaps as disclosed by Ohno, the

Art Unit: 2627

motivation being to allow for more finite control of the optical head tracking means and to allow for a greater range of movement by incorporating air gaps.

Response to Arguments

7. Applicant's arguments with respect to claims 1 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

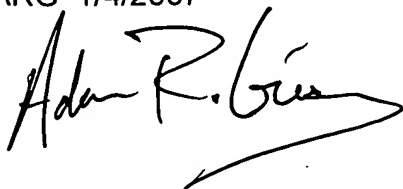

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 1/4/2007

A handwritten signature in black ink, appearing to read "Adam R. Gies". The signature is fluid and cursive, with a long horizontal stroke at the end.A handwritten signature in black ink, appearing to read "Thang V. Tran". The signature is cursive and stylized.

THANG V. TRAN
PRIMARY EXAMINER